

CLAIMS

Please cancel claims 1 and 10-24 without prejudice. Please amend the claims as follows:

Claim 1 (cancelled)

2. (currently amended) The ultra-wideband communication system of claim ~~[[1]]~~ 2, wherein each of the ultra-wideband pulses comprising the training set comprise a pulse of electromagnetic energy having a duration that ~~can range~~ ranges from about 10 picoseconds to about 10 milliseconds.

3. (currently amended) The ultra-wideband communication system of claim ~~[[1]]~~ 2, wherein each of the ultra-wideband pulses comprising the training set comprise a pulse of electromagnetic energy having a duration that ~~can range~~ ranges from about 10 picoseconds to about 10 milliseconds and a power that ~~can range~~ ranges from about +30 power decibels to about -60 power decibels, as measured at a single radio frequency.

4. (currently amended) The ultra-wideband communication system of claim ~~[[1]]~~ 2, wherein the training set of ultra-wideband pulses comprises at least one ultra-wideband pulse selected from a group consisting of: a pre-distorted pulse, a pre-emphasized pulse, a shaped pulse, a substantially triangular pulse, a substantially square pulse, a pulse occupying a portion of a radio frequency spectrum, with a segment of the occupied radio frequency spectrum substantially eliminated; and a pulse occupying a portion of a radio frequency spectrum, with a segment of the occupied radio frequency spectrum amplified.

5. (currently amended) The ultra-wideband communication system of claim [[1]] 9, wherein the ultra-wideband transmitter comprises an ultra-wideband pulse modulator that is structured to transmit a multiplicity of ultra-wideband pulses.

6. (currently amended) The ultra-wideband communication system of claim [[1]] 9, wherein the ultra-wideband receiver comprises an ultra-wideband pulse demodulator that is structured to receive a multiplicity of ultra-wideband pulses.

7. (currently amended) The ultra-wideband communication system of claim [[1]] 9, wherein the wire medium is selected from a group consisting of: an optical fiber ribbon, a fiber optic cable, a single mode fiber optic cable, a multi-mode fiber optic cable, a twisted pair wire, an unshielded twisted pair wire, a plenum wire, a PVC wire, a coaxial cable, and an electrically conductive material.

8. (currently amended) The ultra-wideband communication system of claim [[1]] 9, wherein the wire medium is selected from a group consisting of: a power line, an optical network, a cable television network, a community antenna television network, a community access television network, a hybrid fiber coax system network, a public switched telephone network, a wide area network, a local area network, a metropolitan area network, a TCP/IP network, a dial-up network, a switched network, a dedicated network, a nonswitched network, a public network and a private network.

9. (currently amended) An ultra-wideband communication system for a wire medium, comprising:

an ultra-wideband transmitter structured to transmit a training set of ultra-wideband pulses through the wire medium; and
an ultra-wideband receiver structured to receive the training set of ultra-wideband pulses from the wire medium;

~~The ultra-wideband communication system of claim 1,~~ wherein the ultra-wideband receiver contains information about the training set, and after receiving the training set, responds to the ultra-wideband transmitter with information relating to which of the ultra-wideband pulses in the training set was received in a form that is most similar to a transmitted form.

Claims 10-24 (cancelled)